May 16, 2017 Water Supply Forecast Discussion

The Colorado Basin River Forecast Center (CBRFC) geographical forecast area includes the Upper Colorado River Basin, Lower Colorado River Basin, and Eastern Great Basin.

Water Supply Forecast Summary:

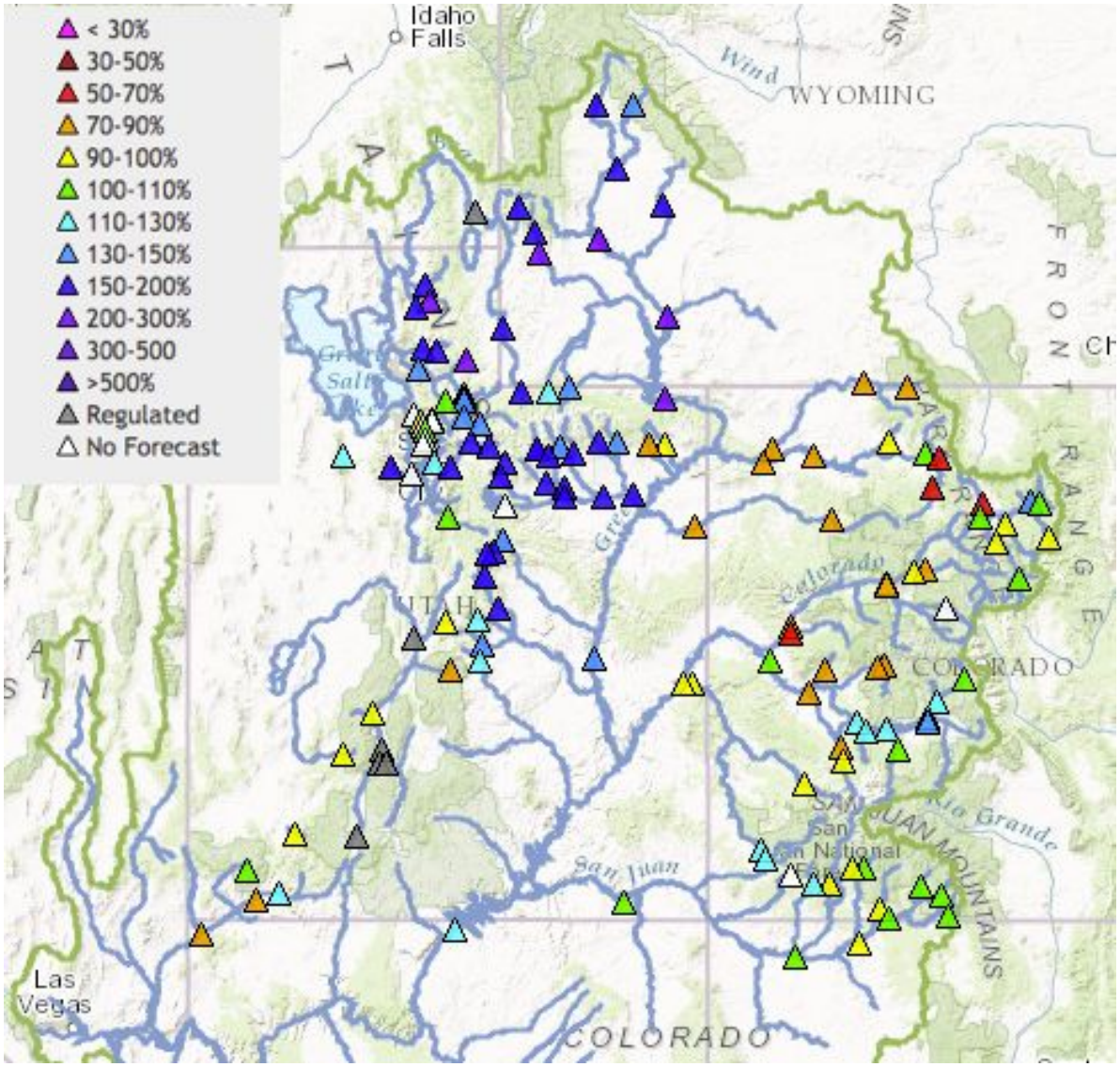
During the first half of May generally dry conditions were observed over much of the upper Colorado River Basin and eastern Great Basin. Most precipitation that did occur was the result of a large cutoff low pressure system along the southern California coast, that moved slowly across the Lower Colorado River region and through southern Colorado. Those areas favored by precipitation extended from southwest Arizona into the lower elevations of the San Juan Basin, well outside of the areas that contribute to the April-July water supply picture. In addition this system brought warm temperatures ahead of it in a strong southerly flow. This significantly enhanced snow melt throughout much of the CBRFC forecast area during early May.

April-July streamflow forecast guidance decreased in many areas due to the warm dry start to May. The amount of decreases varied, with minimal changes in the San Juan Basin, where conditions were a little closer to average, to large declines farther to the north where precipitation was less than 30 percent of average for the first half of the month. Significant runoff volumes are still anticipated throughout the Green River Basin of Wyoming, Duchesne River Basin, and much of the Great Basin of northern Utah, Idaho, and Wyoming. Most forecasts in these areas are expected to range from 150 to over 200 percent of average. A few lower elevation river basins are near or slightly below average due to snow loss as a result of above average spring temperatures.

Above average April-July runoff volumes are anticipated for much of the Dolores River Basin and upper Gunnison River Basin with volumes in the 70-90 percent of average range in lower elevation basins farther west. The Colorado River headwaters also have forecasts in the 100 to 140 percent of average range with lower volumes in the 70-90 percent of average range farther downstream on the Colorado Mainstem. Runoff volumes in the Yampa River Basin are generally below average while much of the San Juan Basin is anticipating runoff volumes near average.

April-July unregulated inflow forecasts for some of the major reservoirs in the Upper Colorado River Basin include Fontenelle Reservoir 1.68 MAF (232% of average), Flaming Gorge 2.26 MAF (231% of average), Blue Mesa Reservoir 825 KAF (122% of average), McPhee Reservoir 3350 KAF (112% of average), and Navajo Reservoir 695 KAF (95% of average). Lake Powell inflow is forecast at 8.30 MAF (116% of average), a reduction of 500 KAF from the May 1st forecast.

Seasonal Water Supply Forecasts:



Upper Colorado, Great, Virgin River Basins: 2017 April-July forecast volumes as a percent of 1981-2010 average.
Guidance as of May 17th 2017
(50% exceedance probability forecast)

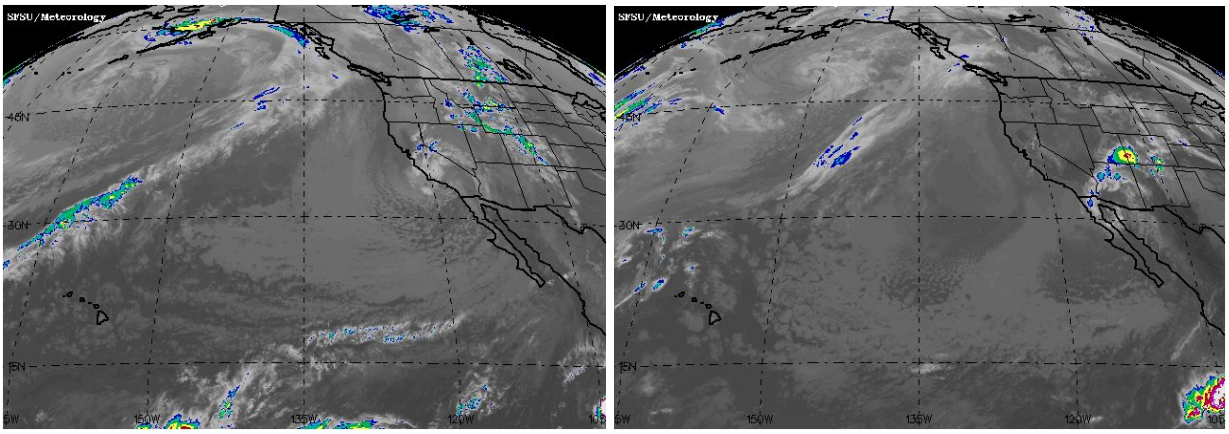
For specific site water supply forecasts click here

Water Supply Discussion

Weather Synopsis:

May was generally on the warm and dry side for the first half of the month. The primary weather feature that impacted

the CBRFC forecast area was the development of a large low pressure system that ended up off the southern California coast. This system generated a strong southerly flow component advecting above average temperatures into the area ahead of it. Precipitation associated with this system impacted primarily the lower Colorado River Basin and lower elevations of the San Juan River Basin. Temperatures warmed up ahead of another very cold low pressure system that moved into the area during the 3rd week of May.



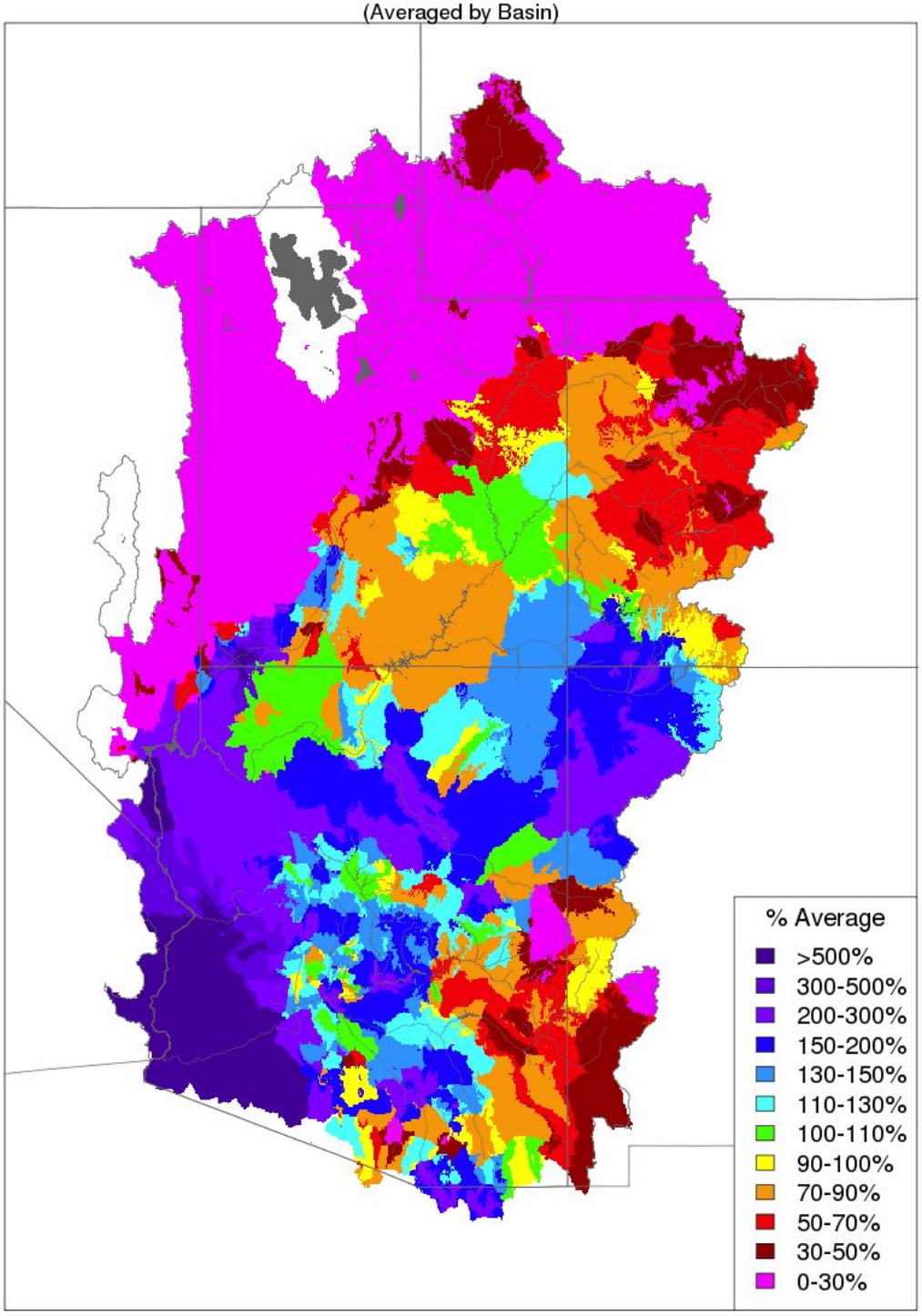
Left Image: May 7th Satellite showing closed low pressure system along the California Coast. Southerly generated by this system brought warm temperatures to the area. May 9th Satellite image shows low pressure on the move through the Lower Colorado River region bringing showers to the southern half of the CBRFC forecast area. (images courtesy SFSU meteorology)

Precipitation and Temperature:

Most precipitation received during the first 15 days of the month was associated with the large cutoff low pressure system that moved from the southern California coast northeast through the Lower Colorado River Basin. This system focused most precipitation over the southeast half of the area while areas north and west remained very dry. In addition southerly flow ahead of this system brought temperatures as much as 10-15 degrees above average for a few days. While mean daily temperatures did drop to near average a couple of times during early May, in general the first half of the month was warmer than normal.

Month to Date Precipitation - May 15 2017

(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Images: May 1st - May 15th 2017 precipitation as a percent of average
(Averaged by basins defined in the CBRFC hydrologic model)

Snowpack:

In the spring once the normal time of peak snowpack has passed, percent median snow water equivalent can be misleading and vary significantly day to day, as well as site to site, depending on the rate of snowmelt and the magnitude of the median value.

The SNOTEL image below correctly indicates where heaviest snowpack remains. These areas extend from the upper Green River Basin of Wyoming, throughout much of the Duchesne River Basin, Bear River Basin, and Weber River Basin. In many other locations snowmelt has accelerated during early May, melting much quicker than usual due to warm temperatures during the last several weeks.

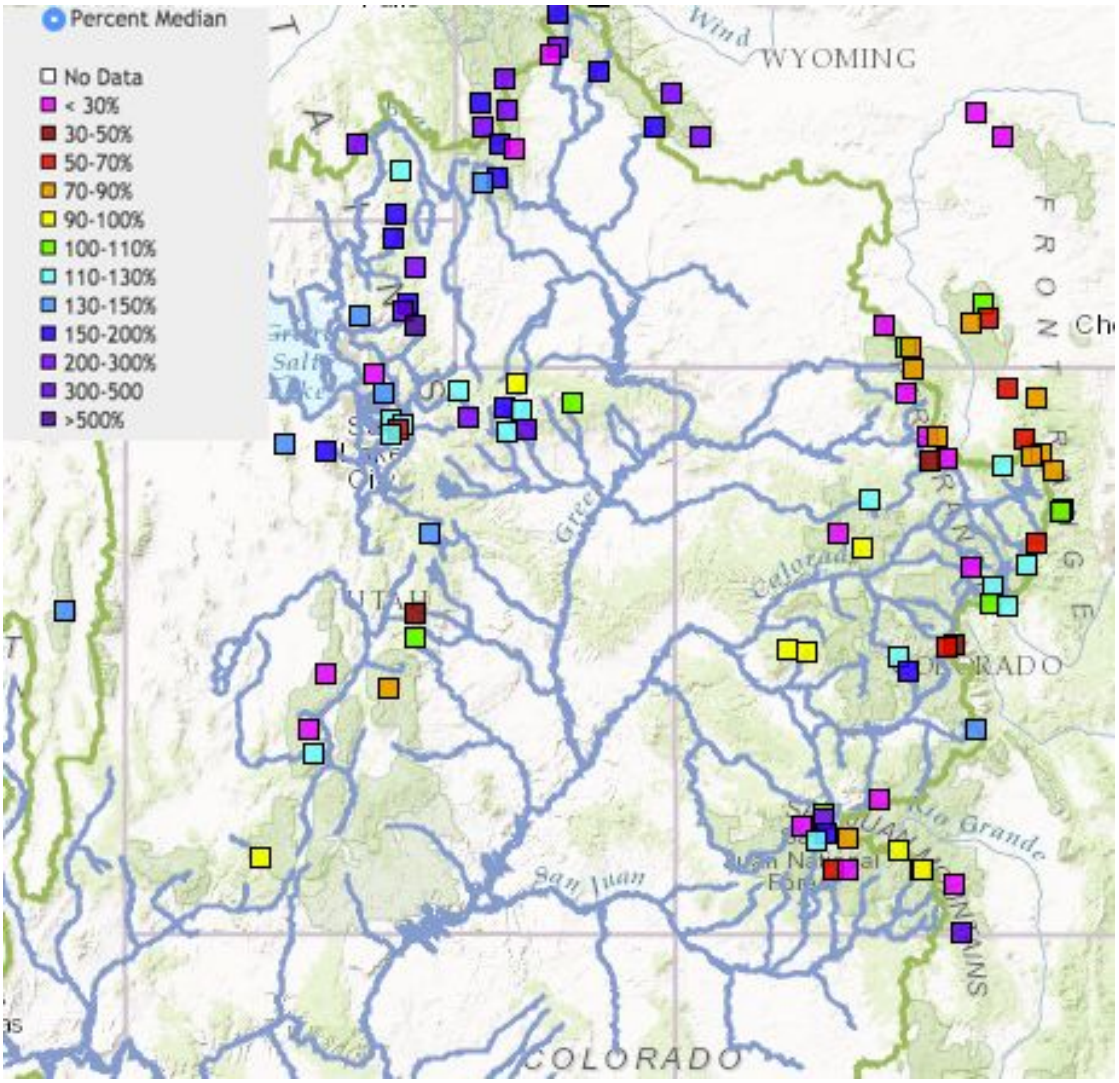
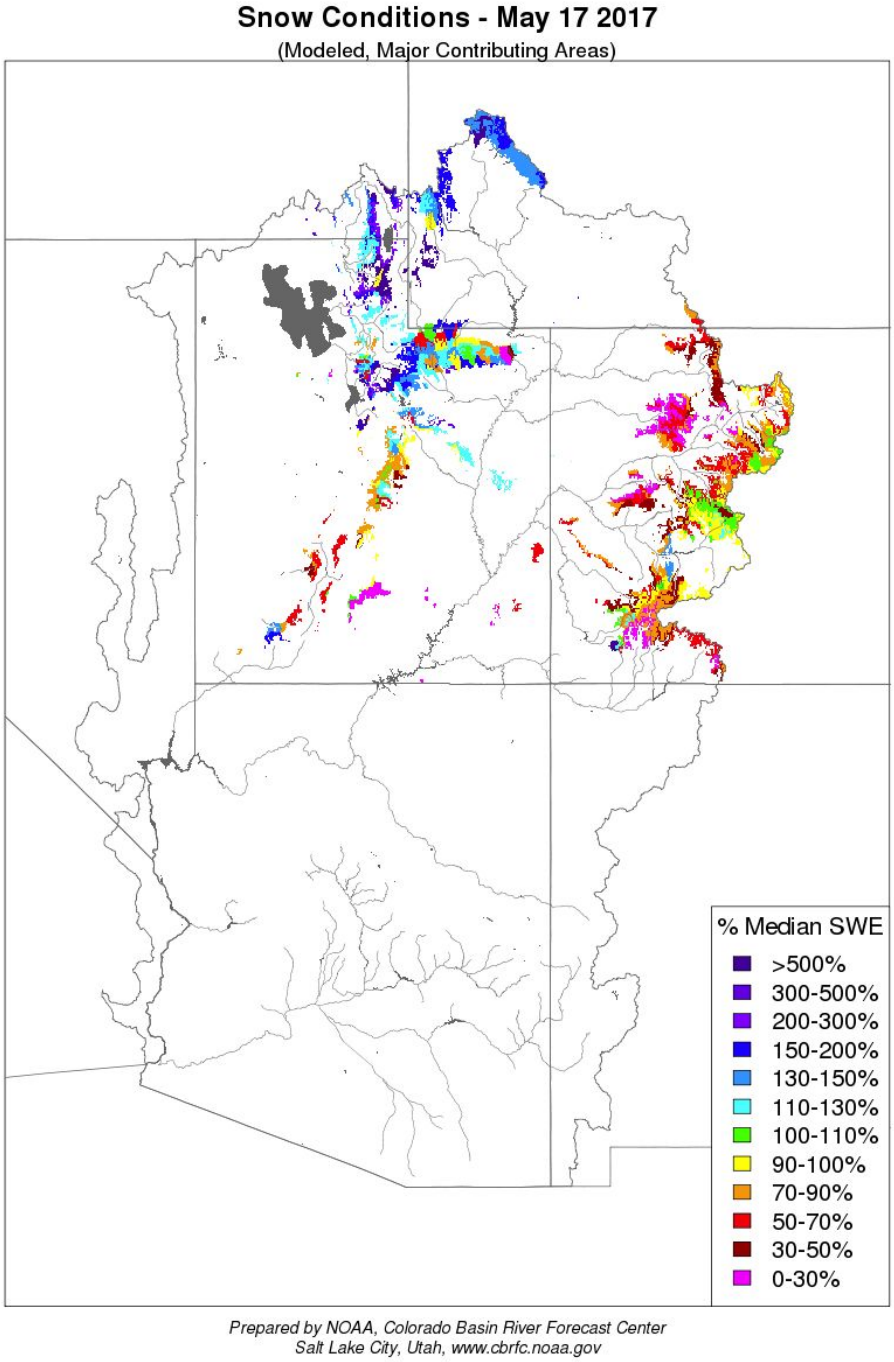


Image: Percent Median Snow Conditions as of May 17th 2017

The image below is the representation of snow in the CBRFC hydrologic model. Only those areas that provide the greatest contribution to the April-July runoff volumes are displayed. It reinforces that the largest snowpack areas

compared to the historical median extend from central Utah through northern Utah into Wyoming and include primarily the Duchesne Basin, northern Great Basin, and the Green River Basin of Wyoming. Snowpack is also near to above average in the Gunnison River headwaters.



Modeled Snow: Snow representation from the CBRFC hydrologic model May17th 2017

For updated SNOTEL information refer to click here

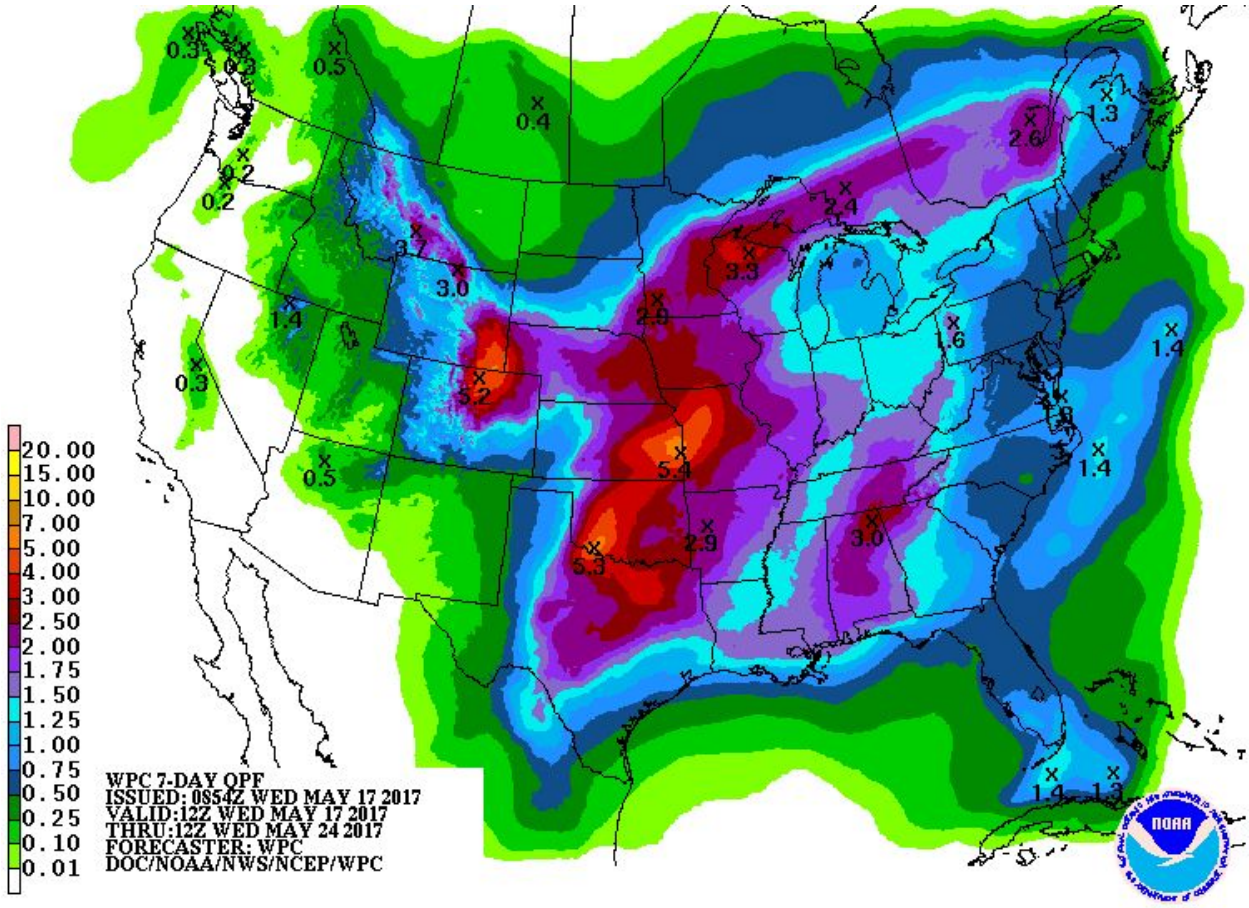
For CBRFC hydrologic model snow click here

Upcoming Weather:

An unusually cold low pressure system currently over the area will continue to bring rain and snow for the next few days. The largest impacts are the colder temperatures that will fall to 20 to 25 degrees below average for this time of year (more typical of late February or early March). Another weaker system is expected to drop into the area early next week keeping temperatures on the cool side. Above average temperatures with increases in snowmelt and streamflow are anticipated for later next week.

The upcoming weather isn't expected to have a significant impact on water supply runoff forecasts as storm systems in May are part of the normal climatology. However much below average temperatures may result in some of the runoff expected in May, being pushed back into June.

Image: NWS Weather Prediction Center precipitation forecast for May 17th - May 24th 2017



End Of Month Reservoir Content Tables

- Green River Basin
- Upper Colorado River Basin
- San Juan River Basin
- Great Salt Lake Basin
- Sevier Basin

Basin Conditions and Summary Graphics

- Green River Basin
- Upper Colorado River Basin
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